



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/611,290	07/06/2000	Patrizio Vinciarelli	00614-092002	4908

26161 7590 11/17/2004

FISH & RICHARDSON PC  
225 FRANKLIN ST  
BOSTON, MA 02110

EXAMINER

DINH, TUAN T

ART UNIT PAPER NUMBER

2841

DATE MAILED: 11/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/611,290

Applicant(s)

VINCIARELLI ET AL.

Examiner

Tuan T Dinh

Art Unit

2841

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 18 August 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 26-28, 30-37, 39 and 40 is/are pending in the application.
- 4a) Of the above claim(s) 26-28 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 30-37 and 39 is/are rejected.
- 7) ☒ Claim(s) 40 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 30-33 and 35-39 are rejected under 35 U.S.C. 102(b) as being anticipated by Juskey et al. (U. S. Patent 5,232,758).

Regarding claims 30 and 39, Juskey et al. discloses an apparatus (electronic device 10, 20) as shown in figures 1-2 comprising:

an electronic device (22), see column 4, lines 52-53, having an outer surface (the surface in which components 24 formed on) and first and second conductive terminations (conductive traces 30), see column 4, line 55 (leads or pins of the components 24), on the outer surface;

a protective, conformal coating (26), see column 4, line 56), on the surface of the electronic device (22); and

first and second windows (an opening 28, the opening 28 is divided into two windows by a component 14) formed in the protective coating (26), the first window that exposes a portion of the first conductive termination (30 or the pins of the components 14) without exposing any other conductive terminations (the other terminations 30 that

formed inside the coating, see figure 2) on the surface of the electronic device, the second window that exposes a portion of the second termination,

wherein the exposed portions of the first and second conductive terminations (the portions in which are not covered by the coating) are recessed in the windows of the conformal coating (see top view of figure 1 and side view of figures 2), the windows (first and second) are defining a boundary for a solder connection between the external and the first conductive termination.

As to claims 31-32, Juskey et al. discloses the coating (16) in figure 1 comprises a uniform thickness, or uniform to the geometric configuration of the electronic device (figure 1 shows a triangular shaped of the conformal coating covering the electronic device 12).

As to claim 33, Juskey et al. discloses the coating comprised a polymer, see column 3, lines 64-66.

As to claims 35-37, Juskey et al. discloses the electronic device (14) in figure 1 comprises an integrated power device (IPD), a semiconductor, or a power semiconductor (column 4, lines 29-33).

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over Juskey et al. ('758) in view of Sutrina (U. S. Patent 5,440,172).

Juskey et al. discloses all of the limitations of the claimed invention, except for the coating comprising a polymer, and the polymer comprises poly-para-xylylene.

Sutrina shows an apparatus in figures 1-3 comprising: a conformal coating made by xylylene polymer (column 3, lines 26-37, column 4, lines 45-49).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a conformal coating such as xylylene polymer, as taught by Sutrina, employ in the apparatus of Juskey et al. in order to provide a thermal energy dissipating of apparatus.

#### ***Allowable Subject Matter***

Claim 40 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Response to Arguments***

Applicant's arguments filed 08/18/04 have been fully considered but they are not persuasive.

Applicant argues:

(a) Juskey does not disclose "the coating formed on the surface of the device having a first window that exposes at least a portion of a first conductive termination without exposing any other conductive termination on the device."

Examiner disagrees. The Juskey reference clearly discloses the coating (16/26), see figures 1-2, formed on a surface of a device (the device 12/22 having pads 30 and components 14/24) having a first window (the opening having a first window, see the explanation in claim 30) that exposes at least a portion of a first conductive termination (30 and the portion shows the termination 30 within the window/opening 18/28) without exposing any other conductive termination (the other terminations are not formed in the window/opening 18/28) on the device 12/22.

(b) Juskey does not disclose "the window that defined a boundary for a solder connection between the terminal and an external circuit." It is incorrect. First, the term "for a solder connection..." which is a functional language and not a positive claim, second, Juskey clearly shows the window (18, 28) is defined a boundary to show a component (14/24) mounted on the device (12/22). The expose portion of the window is used for repair/replacement/resetting the components (14/24) by using one of the suitable solvent (i.e. a solder), see column 4, lines 35-38.

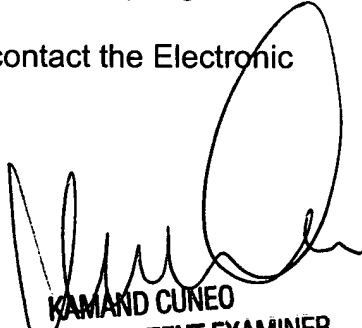
**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan T Dinh whose telephone number is 571-272-1929. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kammie Cuneo can be reached on 571-272-1957. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tuan Dinh  
November 02, 2004.



KAMMIE CUNEO  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800